

Characterization of *Fusarium proliferatum* through species specific primers and its virulence on rice seeds

ABSTRACT

Bakanae is one of the important diseases of rice (*Oryza sativa* L.). To evaluate the pathogen(s) responsible for bakanae disease of rice in Malaysia, 12 isolates of *Fusarium* spp. were obtained from infected rice plants samples from rice growing in Tanjung Karang and Sekinchan areas of Selangor. All isolates were identified as *F. proliferatum* based on morphological characteristics and confirmed by amplification of DNA with species specific primer pairs Pro 1/2 at 554 bp. The rDNA-ITS primer sequences showed 99% homology with *F. proliferatum* isolates AJ810449.1, X94171.1, GU363955.1, EU151488.1, HQ380789.1, HQ332533.1, GU594758.1 and EU03930366.1. Pathogenicity testing on susceptible rice variety MR 211 proved all isolates to be pathogenic based on increase in plant height (%) decrease in main root length (%) and decrease in lateral roots number (%) of inoculated plants compared to control plants.

Keyword: Bakanae disease; *Fusarium proliferatum*; *Oryza sativa* L; Pathogenicity; rDNA-ITS